

DIGITAL TELEVISION

What Is Digital Television (DTV)?

DTV is a new type of broadcasting technology that will transform television as we now know it. DTV technology will allow broadcasters to offer television with movie-quality picture and CD-quality sound, along with a variety of other enhancements. DTV technology can also be used to transmit large amounts of other data into the home, which may be accessible by using your computer or television set.

Why Is DTV Important and Why Is DTV Happening?

With DTV, broadcasters will be able to offer television with higher resolution and better picture quality than what exists under the current mode of TV transmission. With DTV, much more information may potentially be available on your television set, including additional channels. DTV will also free up parts of the scarce and valuable broadcast airwaves, allowing the government to use those portions of airwaves for other important services, such as public safety services (*i.e.*, police, fire departments, rescue squads, etc.).

When Will Broadcasters Complete Their Transition to DTV?

The transition to DTV is a tremendous undertaking – and one that is well under way. The FCC has already established rules and a plan to move all television station licensees to DTV.

As part of the DTV transition, each existing television licensee received a paired digital channel for digital transmission, in addition to its analog channel, used for regular television service. After the transition, broadcasters will have to surrender the analog channel to the FCC for auction.

More than 450 stations are currently on the air with DTV signals, and, with the proper equipment, approximately 88% of American households could receive at least one DTV signal. All analog television licensees are expected to make the transition from analog to digital transmission by December 31, 2006.

Will I Be Able to Continue Receiving “Regular” Television and Use My Regular Set and Antenna?

Consumers will continue to receive analog television service until a majority of the viewing public can receive digital service. A law passed by Congress in 1997 allows for the continuation of analog service beyond the year 2006 if DTV service and equipment are not as widespread then as is currently anticipated.

During the transition period, consumers who wish to view analog programs can continue to use their existing sets. They will not be able to see the DTV broadcasts, however, without a DTV-compatible set or a special converter. Consumers who wish to keep their existing sets can purchase converters that will allow them to view digital programs on their current sets.



In general, DTV will require the same type of signal reception equipment that currently works for good quality reception of analog TV signals. If you need a rooftop antenna in order to receive analog television reception, the same antenna generally will be needed for DTV.

How Much Better Is the Resolution of DTV Compared to Current Analog TV?

Most analog television broadcast stations transmit a picture that contains 480 vertical interlaced lines with approximately 340 horizontal pixels per line. DTV sends pictures that contain 1080 vertical interlaced lines with 1920 horizontal pixels per line, making the resolution much better.

High Definition Television (HDTV)

HDTV is television with theater-quality pictures and CD-quality sound. Broadcasters can use the DTV system to offer HDTV. They can also use DTV to offer several different non-HDTV (or standard definition) programs at the same time (see above), with better pictures and sound quality than is generally available over analog channels today. In addition, a broadcaster can simultaneously transmit a variety of other information, such as stock market quotes or interactive education materials, as part of its standard DTV broadcast to both enhance its TV programs and to provide entirely new services.

What Will the New DTV Sets Look Like and What Will They Cost?

New DTV sets have wider screens than current TVs, allowing you to view pictures that are more like those in a movie theater. The wider screen is expected to enhance sports and drama viewing, making you feel more involved in the action, as well as rendering more realistic pictures. As with current TV sets, a range of sizes eventually will be available.

Just as color televisions were very expensive when they were first introduced, the new DTV-compatible sets are still costly, with manufacturers concentrating initially on “high-end” models. The price has already begun to drop, however, and will continue to do so over time. By the time DTV broadcasts are available everywhere across the country, DTV sets should be more affordable. In the meantime (and as a permanent alternative), you have the option of purchasing a converter box that can adapt your current television set for digital use. The price of a converter box may drop below \$100 during the transition period to full DTV service.

Why Can't There Be DTV in Addition to the Television System We Now Have?

Congress has determined that the current broadcast television service must eventually convert completely to digital transmissions. In fact, the modern technology of DTV is more efficient than analog TV technology and will allow the same number of stations to broadcast more program material using fewer broadcast airwaves. It would be inefficient, expensive, and wasteful to allocate airwaves – or spectrum – to operate two sets of TV stations permanently, so broadcast service in only one method of transmission (DTV) is necessary. Electronic equipment manufacturers, cable companies, program providers, and the government are working to ensure that cable is compatible with digital technology.



How Many Programs Can a TV Station Send Simultaneously on One Channel With DTV?

The number of programs a station can send on one digital channel depends on the level of picture resolution desired in each program. Broadcasters currently can send one program per channel over analog. With digital transmission, broadcasters can send four programs in standard definition television (SDTV). This is called "multicasting." However, broadcasters may choose to use nearly the entire digital channel capacity for one HDTV program.

For more information about DTV, go to the FCC's Media Bureau at <http://www.fcc.gov/dtv/>. For other telecommunications-related issues, contact the FCC's Consumer & Governmental Affairs Bureau:

Internet: www.fcc.gov/cgb
E-mail: fccinfo@fcc.gov
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